

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A data carrier having a holographic data memory in a form of a volume hologram comprising:
with a core layer and at least one adjacent layer, which is laminated to the core layer,
wherein the core layer comprises comprising the [[a]] holographic data memory in the form
of a volume hologram; and
an adjacent layer laminated to the core layer, the adjacent layer having an inner
characterized in that the surface of the directly adjacent layer, the inner surface facing the
core layer and having includes a roughness before the lamination with to the core layer, the
roughness causing that causes a wavelength shift of the image that is reconstructed from the
volume hologram volume hologram.
2. (Currently Amended) The data carrier according to claim 1, wherein the characterized
in that the average roughness of the inner surface is about 5 μm to 25 μm for the wavelength
shift of the image of at least 20 nm, which is reconstructed by the volume hologram, is equal
to so as to result in a wavelength shift of about 20 nm 5 μm to 25 μm .
3. (Currently Amended) The data carrier according to one of the claims 1 or 2 claim 1,
wherein the roughness of the inner surface characterized in that the roughness is
stochastically distributed.
4. (Currently Amended) The data carrier according to one of the claims 1 or 2 claim 1,
wherein the inner surface includes a characterized in that the roughness profile having a is
regular jagged relief in the form of a jagged profile.
5. (Currently Amended) The data carrier according to one of the foregoing claims claim
1, wherein the characterized in that different areas of the layer directly adjacent layer
includes a first area having a first roughness profile and a second area having a second

roughness profile, wherein the first roughness profile is different from the second roughness profile to the core layer include different variations of roughness prior to the lamination.

6. (Currently Amended) The data ~~Data~~ carrier according to claim 5, wherein the first and second areas display ~~characterized in that the areas of the layer directly adjacent to the core layer with different roughness displays~~ information in the form of numbers, letters, ~~geometrical~~ geometric forms ~~shapes~~ or images.
7. (Currently Amended) The data ~~Data~~ carrier according to ~~one of the foregoing claims~~ claim 1, wherein ~~characterized in that~~ the adjacent layer ~~consists of~~ comprises at least one thermoplastically processible plastic material, ~~particularly polycarbonate (PC).~~
8. (Currently Amended) The data ~~Data~~ carrier according to ~~one of the claims 1 to 6~~ claim 1, wherein ~~characterized in that~~ the adjacent layer ~~consists of~~ comprises a paper-like material having with at least one plastic laminated layer.
9. (Currently Amended) The data ~~Data~~ carrier according to ~~one of the foregoing claims~~ claim 1, wherein ~~characterized in that~~ the adjacent layer is imprinted.
10. (Currently Amended) The data ~~Data~~ carrier according to ~~one of the foregoing claims~~ claim 1, wherein ~~characterized in that~~ the ~~volume hologram~~ holographic data memory includes at least one area that is locally ~~shrunk~~ shrunk or swollen.
11. (Currently Amended) The data ~~Data~~ carrier according to claim 10, wherein ~~characterized in that~~ the at least one area that is shrunken or swollen ~~shrinking or swelling~~ includes a gradient towards the data carrier surface.
12. (Currently Amended) The data ~~Data~~ carrier according to ~~one of the foregoing claims~~ claim 1, wherein an increased ~~characterized in that the increasing~~ roughness of the directly

adjacent layer corresponds to an increased ~~causes a shift of the wavelength of the image~~
reconstructed image by the volume hologram to shorter ~~smaller~~ wavelengths (~~blue shift~~).

Claims 13-17 (Cancelled)

18. (New) The data carrier according to claim 7, wherein the thermoplastically processible plastic material includes polycarbonate (PC).

19. (New) A method of manufacturing a data carrier having a holographic data memory in a form of a volume hologram, comprising the steps of:

providing a core layer having a first surface and the holographic data memory;

providing an adjacent layer having an adjacent surface;

producing a roughness on the adjacent surface of the adjacent layer; and

laminating the adjacent layer and the core layer such that the adjacent surface of the adjacent layer is in contact with the first surface of the core layer,

wherein the roughness produced on the adjacent surface causes a wavelength shift of the image that is reconstructed from the volume hologram.

20. (New) The method of claim 19, wherein the producing step produces an average roughness of about 5 μm to 25 μm so as to produce a wavelength shift of at least 20 nm.

21. (New) The method of claim 19, further comprising the step of selecting an area of the adjacent surface, wherein the producing step includes impressing a regular relief onto the selected area through at least one of thermal and mechanical deformation.

22. (New) The method of claim 21, wherein the selected area corresponding to at least one of a geometric form, a number, a letter, and an image.

23. (New) The method of claim 19, further comprising the step of selecting an area of the adjacent surface, wherein the producing step includes smoothing the selected area.

24. (New) The method of claim 23, wherein the selected area corresponding to at least one of a geometric form, a number, a letter, and an image.